

**SHORT FORM
CATALOG
B**

ELECTRONIC MEASURING EQUIPMENT FOR THE UNCOMPROMISING

11/68

This catalog contains a representative selection of precision test and measuring equipment supplied by Rohde & Schwarz Sales Co. (U.S.A.), Inc. Each item is briefly described — but complete technical information on any product may be obtained by completing the attached reply card or by writing directly to R&S at the address given below.

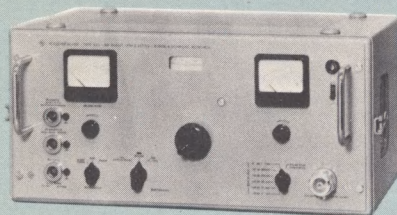


**ROHDE & SCHWARZ
SALES CO. (U.S.A.), INC.**

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TELEPHONE: 201-773-8010

TIMES TEN MULTIPLIER & AMPLIFIER TYPE XVD



Circle No. 5 on Card

APPLICATIONS

Extends range of frequency synthesizers and signal generators by factor of 10. Can be AM modulated internally and externally • Has provision for use as direct reading frequency meter • Measures accurately at millivolt level • Use for measuring small frequency deviations • Can be used also as free-running power signal generator over VHF range.

FEATURES

- Frequency range 30 to 300 MHz
- Voltage output 0.1 mV to 3 V, adjustable by precision attenuator
- AVC control keeps output voltage largely independent of input voltage
- As power signal generator, adjustable maximum output is 3 V EMF
- Internal modulation frequency 1 kHz
- External modulation frequency range 30 Hz to 30 kHz
- Extremely low internal noise and spurious

PORTABLE FREQUENCY AND TIME STANDARD TYPE CAQ



Circle No. 7 on Card

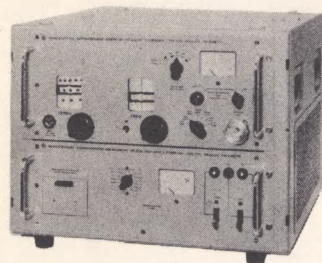
APPLICATIONS

Used as travelling primary frequency and time standard • Provides synchronous drive for clocks and astronomical instruments • Synchronization of measurements of widely separated events

FEATURES

- Sinusoidal and pulsed outputs of 100 kHz, 10 kHz, 1 kHz, 50 or 60 Hz; 1 sec. and 1 minute contacts
- Stability better than 5 parts in 10^{-8} day
- Built-in 100 kHz crystal
- Setting accuracy 1 part in 10^{-8}
- Fully transistorized, built-in Ni-Cad Battery

UHF SYNTHESIZER TYPE XUC



Circle No. 6 on Card

APPLICATIONS

Precision UHF signal generator • Frequency measurement • Permits efficient frequency multiplication into high GHz range because of high output voltage and low spurious content at starting point

FEATURES

- 470 to 1000 MHz, continuously tunable
- Resolution ± 5 kHz (± 0.5 Hz with XUA synthesizer as vernier)
- Accuracy is 10^{-9}
- Maximum output voltage of 3 volts RMS
- Precision attenuator permits output voltage attenuation by 70 db.
- Built-in 5 MHz crystal
- Noise and spurious frequencies —80 db
- Solid state, for 19" rack mounting

VLF TRACKING SYSTEM TYPE XKE/XSC/XSD



Circle No. 8 on Card

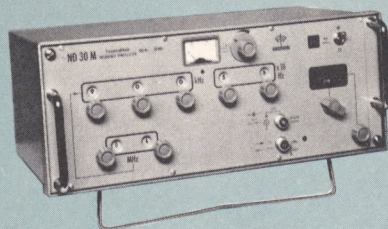
APPLICATIONS

Provides unattended frequency tracking and control of type XSC or XSD frequency standard from VLF standard transmissions up to 100 kHz • This completely solid-state system combines the high absolute accuracy of an atomic standard with the extremely good short term stability and clean output of a crystal oscillator • Logging of crystal aging

FEATURES

- Any multiple of 100 or 500 Hz can be used as a pilot frequency
- An external DC recorder will record corrections made by the XKE/XSC/XSD to a few parts in 10^{11} , and the phase difference between the standard radio signal and the local standard signal to an accuracy of $1 \mu\text{sec}$.
- Built-in time constants can be selected to eliminate day-to-night phase shifts
- Operates with signals as low as $1 \mu\text{V}$

FREQUENCY SYNTHESIZER TYPE ND30M



Circle No. 1 on Card

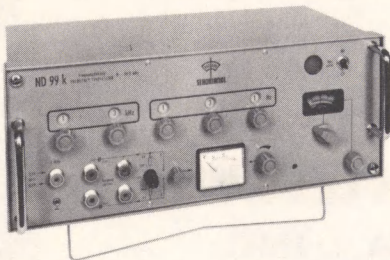
APPLICATIONS

Extremely accurate signal generator for bridge measurement • Filters • Networks • Communications • Nuclear magnetic resonance • Source of reference frequencies for standards lab • Frequency measurement.

FEATURES

- 300 Hz to 31 MHz range, in steps of 0.1 Hz
- Built-in 1 MHz crystal has thermostat and oven and $5 \times 10^{-9}/^{\circ}\text{C}$ stability
- Spurious and noise suppression better than 80 db
- Continuously variable, digital readout, no tuning required
- Completely transistorized
- With battery operation, power consumption only 30 VA

FREQUENCY SYNTHESIZER TYPE ND99K



Circle No. 2 on Card

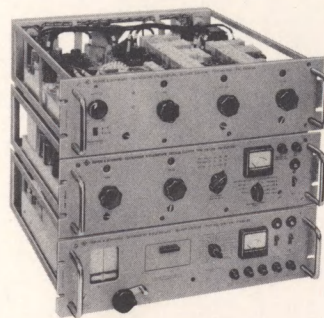
APPLICATIONS

Extremely accurate signal generator for bridge measurement • Filters • Networks • Communications • Nuclear magnetic resonance • Source of reference frequencies for standards lab. Frequency measurement.

FEATURES

- 0 to 109.999 kHz, continuously adjustable
- Fully transistorized, digital readout
- Built-in 1MHz crystal oscillator with oven has better than $5 \times 10^{-9}/^{\circ}\text{C}$ stability
- For battery operation, current consumption is only 200 mA
- Noise and spurious suppression better than 80 db.
- Balanced and unbalanced output

DECADE SYNTHESIZER-EXCITER TYPE NO 263



Circle No. 3 on Card

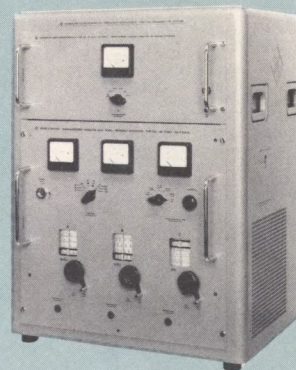
APPLICATIONS

Exciter for transmitters • Local oscillator for receivers • Precision frequency generator • Testing of single sideband and telegraphy receivers • Nuclear magnetic resonance

FEATURES

- 100 kHz to 30 MHz range, continuously adjustable, digital readout
- Maximum output of 1 watt
- Maximum Resolution of 0.05 Hz
- Built-in crystal has aging rate less than $5 \times 10^{-9}/\text{day}$
- Modulation facilities for AM (A3b) and FM (FSK)
- For 19" rack mounting

FREQUENCY SYNTHESIZER TYPE XUA



Circle No. 4 on Card

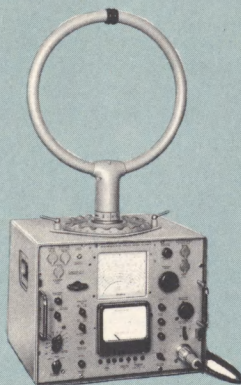
APPLICATIONS

As extremely accurate standard signal generator • Bridge Measurement • Filters • Networks • Communications • Nuclear Magnetic Resonance • Automatic Response Plotting • Source of Reference Frequencies for Standards Lab

FEATURES

- 30 Hz to 30 MHz, continuously variable
- Accuracy is 10^{-8} , ± 0.5 Hz
- Built-in 100 kHz crystal standard
- Output continuously adjustable from less than $100\mu\text{V}$ to 1 V
- Frequency read on three scales in MHz, kHz and Hz
- Wide range search oscillators cover fully either of the three scales
- Frequency can be swept over any range by motor drive

FIELD STRENGTH METER TYPE HFH



Circle No. 9 on Card

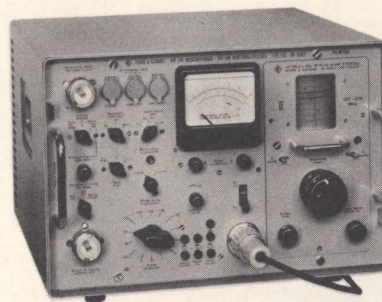
APPLICATIONS

Measures electric and electromagnetic components of a field directly by means of one calibrated rod and three rotatable loop antennas • Serves as sensitive direction finder

FEATURES

- 0.1 to 30 MHz range
- Linear range of 20 db and logarithmic ranges of 40 and 60 db
- As field strength meter, has range 0 to 120 db (1 μ V/m to 1 V/m)
- Calibration charts unnecessary due to built-in tracking calibrating oscillator
- Range can be extended through VLF to 10 kHz by ancillary equipment

VHF-UHF MEASURING RECEIVER TYPE ESU (HFU)



Circle No. 11 on Card

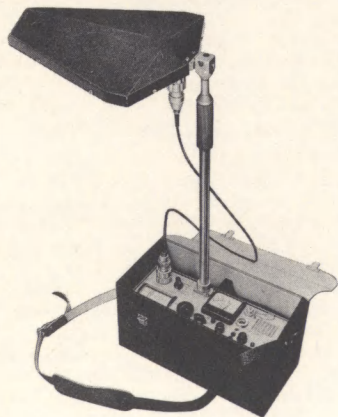
APPLICATIONS

Multi-purpose receiver for radio monitoring, radio interference, and lab measurements • Selective voltmeter • Complete transmission test set using built-in tracking generator with 30 mV fixed output • With calibrated antennas, it is available as field strength meter type HFU

FEATURES

- Frequency range 25 to 900 MHz with 3 plug-in units
- Measuring range 0 to 120 db referred to 1 μ V. Narrow bandwidth
- Has built-in tracking calibrating oscillator, eliminating need for calibration charts
- Accuracy is ± 1.5 db
- Indicates RMS and peak values (with slide-back voltmeter)
- Provides AM and FM demodulation
- May be operated from 12 V battery at low power drain

UHF FIELD STRENGTH INDICATOR TYPE HUZU



APPLICATIONS

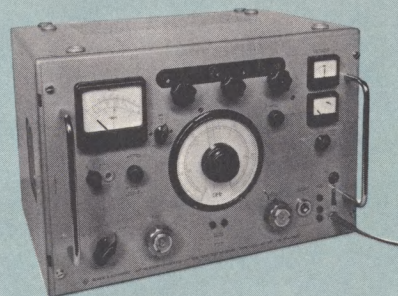
Particularly useful for contour mapping and propagation measurements

FEATURES

- 470 to 850 MHz range
- Consists of transistorized receiver and log periodic broadband antenna
- Field strength range 27 to 110 db above 1 μ V/m
- Accuracy is ± 6 db
- Operated from built-in sealed storage batteries (charger included)
- Can be used as selective microvoltmeter
- Antenna rotatable in two planes for direction finding and measurement of polarization

Circle No. 10 on Card

TEST RECEIVER TYPE USVU



Circle No. 12 on Card

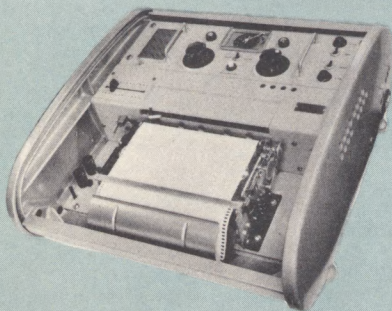
APPLICATIONS

Measurement of voltage and power ratio • Measurement of reflection coefficients with reflectometer; of impedances with slotted line • Calibration of attenuators • Measurement of insertion loss or gain • Measurement of filter curves • Quantitative investigation of harmonic spectra

FEATURES

- Absolute and relative measurement of power, voltage and field strength in the range of 0.9 to 2.7 GHz
- Dynamic range 60 db for highest accuracy; range can be increased to 80 db with only 1 db error
- Total measuring range —90 to —10 dbm
- Automatic frequency tracking system by servo limits maximum frequency variation from the center of pass-band to ± 3 kHz

FREQUENCY SPECTRUM ANALYZER/RECORDER TYPE FBS



Circle No. 13 on Card

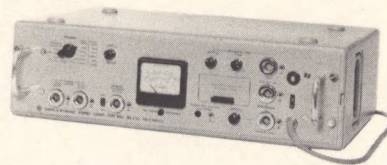
APPLICATIONS

Monitors carrier frequency, transmission bandwidth, frequency power distribution with modulation, and field intensity simultaneously • Analyzes characteristics of RFI • Locates clear channels • Jamming

FEATURES

- Automatic long or short term monitoring of RF bands in connection with appropriate receiver
- Complete, detailed strip-chart analysis of frequency characteristics of any RF radiation
- Automatic sweep of any desired portion of spectrum
- Operates with any appropriate receiver on any frequency band
- Can record unattended for two weeks with one roll of paper

STEREODECODER TYPE MSC



R/S



Circle No. 15 on Card

APPLICATIONS

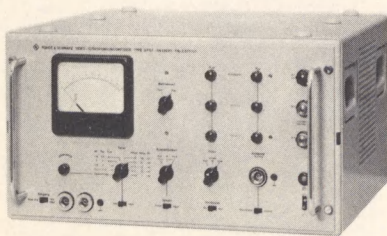
Provides two fully independent outputs for a multiplex signal according to FCC recommendations for modulation of signal generators and FM transmitters • Internal modulation frequency and an auxiliary pilot signal are available for CRO sync, and (for example) checking stereo decoders.

FEATURES

- Frequency range 30 Hz to 15 kHz
- Fully transistorized
- Built-in modulation generator permits internal modulation with three frequencies of 60 Hz, 1 kHz, and 15 kHz. With these internal modulation frequencies, no external modulation source is necessary for checking distortion and cross-talk

NOTE: A stereodecoder type MSDC is also available as quality reference standard for FM transmitters.

VIDEO NOISE METER TYPE UPSF



Circle No. 14 on Card

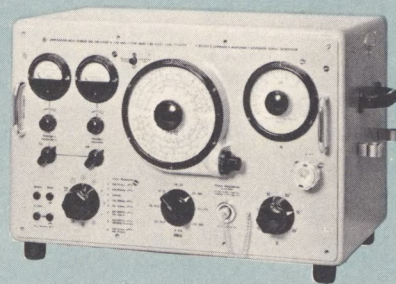
APPLICATIONS

Measurement of weighted and unweighted noise voltages occurring in TV transmissions systems • Measurements are possible in the presence of picture and line synchronizing impulses, and associated blanking intervals.

FEATURES

- 40 Hz to 5 MHz frequency range
- 7 measurement ranges
1/3/10/30/100/300 mVpp/1 Vpp
- Either RMS or peak-to-peak indication
- Input impedance approx. 1M Ω shunted by 30 pF
- Output for oscilloscope
- Impedance 75 Ω

STANDARD SIGNAL GENERATOR TYPE SMAF



Circle No. 16 on Card

APPLICATIONS

For AM, FM, stereo, and video modulation • Used in development and production of amplitude and frequency-modulated receivers • For measurements on television receivers, it produces the picture carrier.

FEATURES

- Frequency range 4 to 300 MHz in 8 sub-ranges with $\pm 1\%$ accuracy
- Internal oscillator supplies 1 kHz frequency for internal FM and AM modulation
- External AM frequency 30 Hz to 100 kHz
- Video modulation frequency 0 to 6.5 MHz
- External FM frequency 30 Hz to 20 kHz
- Accepts a standard FCC-stereo signal such as provided by type MSC stereodecoder

VHF POWER SIGNAL GENERATOR TYPE SLSV



Circle No. 17 on Card

APPLICATIONS

Primarily an RF voltage source used in conjunction with slotted lines, diagraphs and other measuring instruments • Frequency range is covered in seven sub-ranges, each with its own scale calibrated directly in frequency • Its high output voltage, if necessary, can be attenuated by up to 40 db.

FEATURES

- 25 to 480 MHz frequency range
- Typical output power is 500 milliwatts
- Frequency calibration accuracy $\pm 1\%$
- Frequency drift less than 5 parts in 10^5 within 15 minutes after 2 hours of operation
- Switch selected square wave modulation

POWER SIGNAL GENERATOR TYPE SLRC



Circle No. 19 on Card

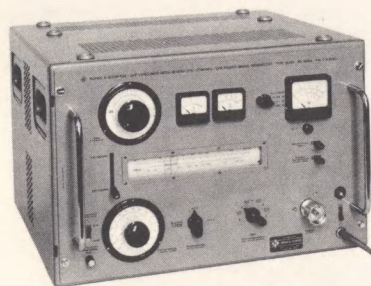
APPLICATIONS

Measurements on 2- and 4-terminal networks • Measurements on antenna ranges, microwave and radar systems • Signal source for standing wave indicators • Measurements on narrow band resonators.

FEATURES

- Wide frequency range 2.3 to 7.0 GHz
- Digital indicator; single range, single tuning
- Large power output — 3 watts maximum, more than 1 watt over greater part of the range
- External pulse modulation provided
- Can be synchronized from frequency synthesizer type XUC
- Continuously variable attenuator has 100 db range
- Careful shielding makes operation at low output power feasible

UHF POWER SIGNAL GENERATOR TYPE SLRD



Circle No. 18 on Card

APPLICATIONS

Antenna ranges, propagation measurement, testing of power transistors, and attenuators, loads, etc. • Source of medium power at UHF for calibration purposes

FEATURES

- 275 to 2750 MHz range
- Maximum output of 20 watts, at least 1 watt over entire range
- 50 ohm output impedance
- Variable output attenuator of 80 db
- Internal modulation frequency of 1 kHz available, external modulation on request
- Completely protected against overload
- Direct calibration, no interchangeable cavities

POWER SIGNAL GENERATOR WITH BROADCASTING QUALITY TYPE SMAR



Circle No. 20 on Card

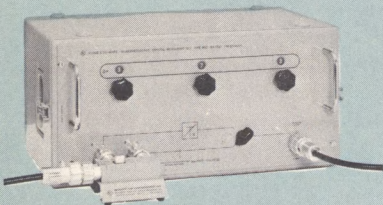
APPLICATIONS

Research and development work in the field of high quality communications experiments, broadcasting, single sideband and telegraphy receivers • Study of modulation and demodulation at high modulation levels • Accurate measurement of bandwidth by means of second output.

FEATURES

- Frequency range 29 Hz to 31 MHz
- Output EMF 0.1 μ V to 10 V plus fixed output 200 mV
- Five selectable output impedances from 50 to 600 Ω
- Can be AM modulated up to 80% with extremely low distortion
- Can be FM modulated for telegraphy (simplex, duplex)
- Can be synchronized by internal crystal or external synthesizer

CRYSTAL MEASURING SET TYPE RQZ



Circle No. 21 on Card

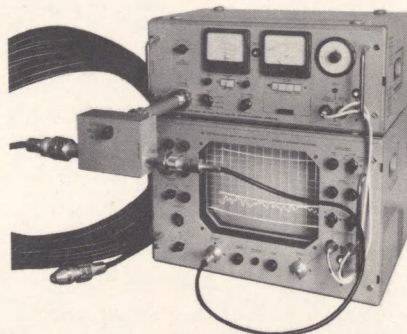
APPLICATIONS

Provides passive transmission network measurement of equivalent circuit parameters of oscillator or filter crystals in accordance with IEEE, IEC, and DIN recommendations. Measuring head may be connected directly to transmission network or via two cables so that test item can be placed in a variable temperature enclosure, e.g., to determine temperature coefficient of the crystal

FEATURES

- Frequency range dc to 300 MHz
- Measures motional capacitance, motional resistance, series resonance frequency, and motional inductance
- Measures crystals over wide range of drive levels
- Ranges of motional resistance 0 to 17 K Ω
- Built-in load capacitances of 12, 30, and 50 pF

AUTOMATIC REFLECTION COEFFICIENT PLOTTER "REFLECTOMAT"



Circle No. 23 on Card

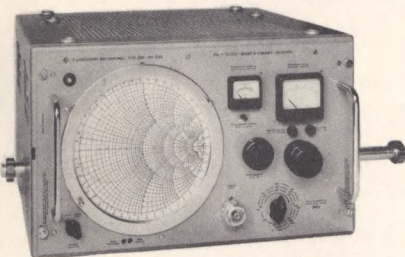
APPLICATIONS

Automatic plotting of reflection coefficients and VSWR of cables, terminations, connectors, antennas, etc. • Ideal for development, field testing and production

FEATURES

- Frequency range 30 to 400 MHz
- Dynamic range of 60 (80) db
- Reflection coefficient range of 0.1% to 100% (VSWR 1.02 to ∞)
- Large screen display on 14" CRT
- No parallax error because of calibration by substitution method
- Consists of Polyskop Type SWOB, Selektomat Type USWV, and Reflectometer Type ZUP

DIAGRAPHS PLOT IMPEDANCE DATA



Circle No. 22 on Card

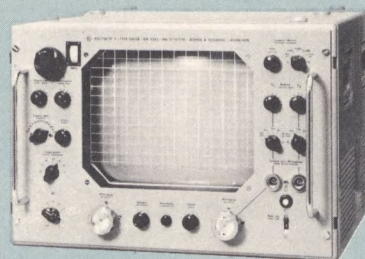
APPLICATIONS

Impedance of antennas, cables, transistors, varactors, terminations, etc. • Accuracy that of a slotted line without calculation

FEATURES

- Two frequency ranges available: 30 to 420 MHz or 300 to 2400 MHz
- Direct presentation of data on Smith Chart, polar-coordinate diagram, or Carter Chart. No calculation required
- With transistor adapter, it measures transistor parameters in the VHF and UHF ranges.
- Measures impedance and admittance
- Acts as a phase meter from -180° to $+180^\circ$
- Use of precision connectors results in exact definition of electrical lengths
- Many accessories make this diagram one of the most versatile instruments

POLYSKOP SWEPT FREQUENCY SYSTEM TYPE SWOB



Circle No. 24 on Card

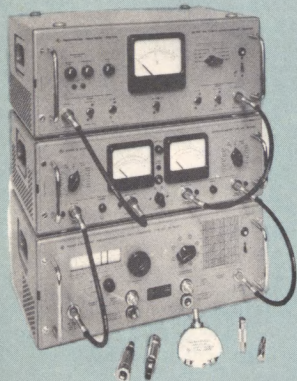
APPLICATIONS

Automatic plotting of attenuation, gain, filter and network characteristics • Ideal for alignment work (For VSWR see Reflectomat)

FEATURES

- Two channel frequency response display on 14" display tube
- 0.5 to 1200 MHz range covers radio and television up to UHF
- Provides instantaneous answers and eliminates point-by-point measurements
- System is entirely self-contained — replaces 5 units (sweeper, precision attenuator, marker generator, electronic switch, display unit)

PHASE AND LOSS MEASURING SYSTEM TYPE PDF



APPLICATIONS

Measures phase and attenuation in filters, crystals, cables, ferrites, communication and television systems, antenna arrays, amplifiers, receivers, etc.

FEATURES

- 10 Hz to 50 MHz range
- Simultaneous reading of attenuation and phase
- Frequency converter increases sensitivity to $50\mu\text{V}$
- Selective frequency converter eliminates effect of waveform distortion on phase measurement
- Inputs adaptable to conventional characteristic impedances or usable with high impedance probes

Circle No. 29 on Card

WIDEBAND MILLIVOLTMETER TYPE UVH



Circle No. 31 on Card

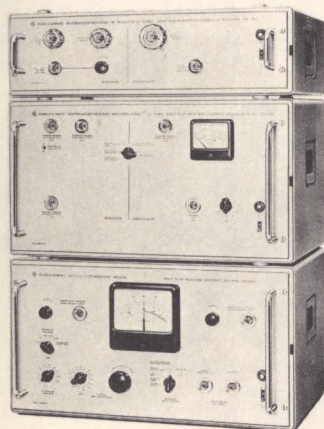
APPLICATIONS

Measurement of ac voltages from AF through RF range • Measurement on filters and 4-terminal networks such as amplifiers, cables, etc. • Use as companion instrument to selective voltmeters such as type USVH • Low group delay makes the UVH an excellent amplifier for use in carrier, video, and pulse systems.

FEATURES

- 30 Hz to 40 MHz range
- $50\mu\text{V}$ to 100 V measuring range, built-in calibration oscillator
- Switchable input impedance of 50/60/75 Ω and 1M Ω
- Low capacitance, high impedance, active (transistorized) probe with a 10 to 1 divider
- Recorder output of 1.5 V at full deflection
- As amplifier, response over entire range is $\pm 5\text{ db}$

GROUP (ENVELOPE) DELAY TEST ASSEMBLY TYPE LFM



APPLICATIONS

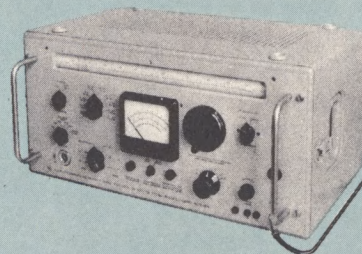
High quantity video and color TV systems • Communications systems

FEATURES

- Frequency range 100 kHz to 10 MHz and 25 to 250 MHz
- Measurement range ± 10 to $\pm 1000\text{ nsec}$
- Crystal stabilized split frequency of 20 kHz
- Equipment can be frequency swept and group delay vs. frequency displayed on CRO

Circle No. 30 on Card

SELECTIVE MICROVOLTMMETER TYPE USVH



Circle No. 32 on Card

APPLICATIONS

Selective frequency response measurements on four terminal networks, amplifiers, filters • Measurement of RF distortion and waveform analysis • Modulation depth measurement • Measurement of inter-modulation and cross-modulation for receivers and amplifiers • Null detector for RF bridges. Measurement of spurious frequencies and noise

FEATURES

- 10 kHz to 30 MHz frequency range
- Full scale deflections of $1\mu\text{V}$ to 1 V
- Selectable bandwidth of 500 Hz or 5 kHz
- Six input impedances selectable from 50 ohms to 500 k ohms
- Expanded scale with suppressed zero for 3 db point measurements

DIRECT-READING REFLECTION COEFFICIENT METER TYPE ZRZ



Circle No. 25 on Card

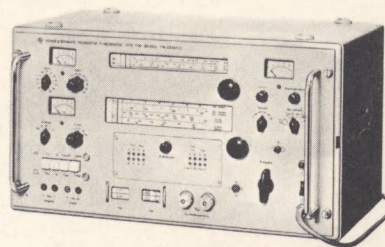
APPLICATIONS

Measurement of reflection coefficients of cables, antennas, resistors, and circuits from 30-1000 MHz • Change of reflection coefficients with varying frequency is directly indicated, and can be recorded. Attenuation of short cables (1 to 10 m) and four-terminal networks can be read directly.

FEATURES

- Direct reading: 0.5% to 100% reflection coefficients; 0.05 to 5 db attenuation
- Frequency range 30-1000 MHz
- Broad-band, no tuning required
- Signal generator is only external accessory required
- Automatic voltage control, signal generator voltage can vary by factor 2:1
- Fully transistorized
- Suitable for measurements of semi-conductors because of low test voltage

TRANSISTOR Y-METER TYPE TYM



Circle No. 27 on Card

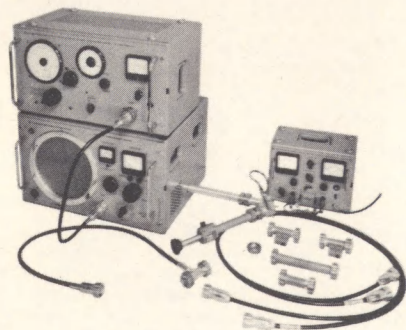
APPLICATIONS

Measurement on PNP, NPN transistors and semiconductor diodes • High frequency dynamic characteristics of transistor Y parameters in emitter configurations, characteristics of capacity diodes • Static characteristics such as transistor voltages and currents, quiescent currents, diode characteristics.

FEATURES

- Measurements at 8 switchable fixed frequencies from 20 kHz to 37 MHz
- Test jigs for TO-5 and TO-18 packages, others available
- Output provided for measurement of phase (R&S Phasemeter Type PDF)

TRANSISTOR MEASURING SYSTEM AT MICROWAVE FREQUENCIES



Circle No. 26 on Card

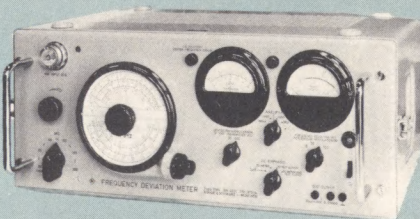
APPLICATIONS

Extremely accurate measurement of H, Y, and Z transistor parameters at VHF, UHF and microwaves. Consists of Diagraph, suitable signal generator, DC power supply, transistor adaptor, and various accessories.

FEATURES

- Precision measurement from 30 MHz to 3 GHz
- Use of precision connectors provides well-defined reference plane for accurate and repeatable measurement of electrical lengths
- Impedance transformation due to lead length can be measured without cutting leads
- One-port parameters directly plotted on Smith-Chart without calculation

FREQUENCY DEVIATION METER TYPE FMV



Circle No. 28 on Card

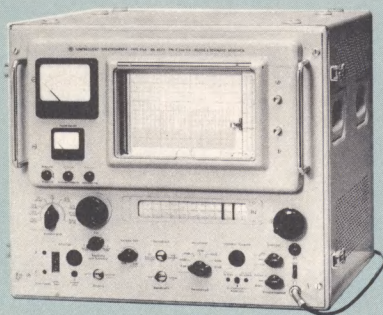
APPLICATIONS

Used for measurements in the development, production, and monitoring of FM transmitter and receivers • Measurement of residual and spurious FM in equipment

FEATURES

- 20 to 600 MHz range
- Direct reading of frequency deviation in ranges to 0 to 10/30/60/150 kHz
- Direct reading of AM modulation depth of 0 to 10 or 30% for transmitters modulated by 30 to 15,000 Hz
- Direct reading of relative center-frequency departures up to ± 100 kHz
- FM deviations as low as 50 Hz can be measured with auxiliary millivoltmeter

AUDIO FREQUENCY SPECTROGRAPH TYPE FNA



Circle No. 33 on Card

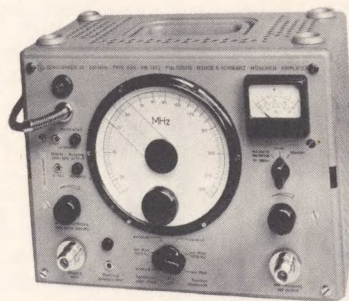
APPLICATIONS

Waveform analysis measurement of spurious frequencies and noise • Measurement on steep filters, including crystals • Automatic plotting of response characteristics of networks, amplifiers, microphones, loud speakers, etc.

FEATURES

- True dynamic range of 80 db for both measurement and recording
- Frequency range 30 to 20,000 Hz
- Accurate within $\pm 1\%$ ± 10 Hz
- Bandwidths of 10 and 200 Hz available
- Voltage measurement accurate within $\pm 5\%$
- Frequency adjustment and sweep either manual or by motor drive
- Records on individual charts
- Synchronized generator available for automatic frequency plotting

TUNABLE VHF AMPLIFIER & SIGNAL GENERATOR TYPE ASV



Circle No. 35 on Card

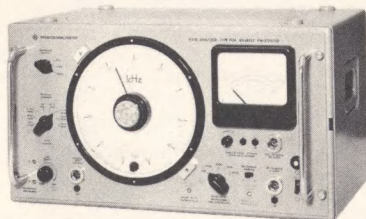
APPLICATIONS

Most VHF measurements possible within this compact instrument serving as: Frequency meter • Voltage amplifier • AM modulator • Tunable indicating amplifier • Voltage indicator • Null detector • Power amplifier • VHF signal generator • Buffer amplifier • Limiting amplifier • Frequency converter • Harmonic generator • Receiver

FEATURES

- Universal VHF instrument in small package economically priced
- Frequency range 30 to 300 MHz with $\pm 2\%$ accuracy
- Internal modulation 1 kHz
- External modulation 30 Hz to 30 kHz
- Output voltage 30 mV to 3V, adjustable
- As amplifier, 40 db gain is provided
- As 1 kHz generator, voltage output is 0 to 10 V

WAVE ANALYZER/SELECTIVE MICROVOLTMMETER TYPE FUA



Circle No. 34 on Card

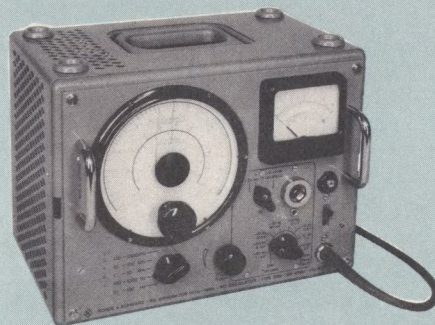
APPLICATIONS

Waveform Analysis • Measurement of distortion • Automatic response plotting of filters, amplifiers, pick-up devices, etc. • Development and testing of stereo-coders and decoders • Ultrasonics • Impulse spectra in radar and telemetry systems • Inter modulation and cross modulation products • Underwater sonar

FEATURES

- Frequency Range 100 Hz to 100 kHz
- Three bandwidths 60 Hz, 300 Hz, and 3 kHz
- Linear range 0.1 mV to 30 V full deflection
- Logarithmic range 60db
- High input impedance 1 megohm, 30 pF
- Internal distortion < -70 db
- DC output for recorder
- Motor drive available
- Built-in voltage calibration

RC-OSCILLATOR TYPE SRB



Circle No. 36 on Card

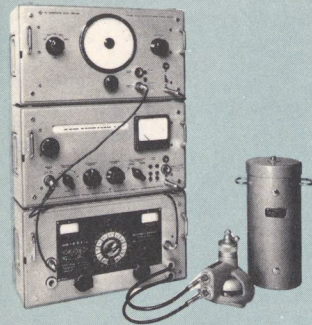
APPLICATIONS

Outstanding for use in acoustical, ultrasonic, AF, and CF measurements

FEATURES

- Frequency range from 10 Hz to 1 MHz in five ranges
- Non-linear distortion can be kept to less than 0.05% over most of range
- Frequency accuracy: $\pm 2\%$ at 10 to 100 Hz; $\pm 1\%$ at 100 Hz to 1 MHz
- 1.5 watt maximum output power
- Sinusoidal output voltages from 0 to 30 V
- Frequency response flat within 0.1 db

DIELECTRIC TEST BRIDGE AND TUNED NULL INDICATOR TYPE VKB/UBM



Circle No. 37 on Card

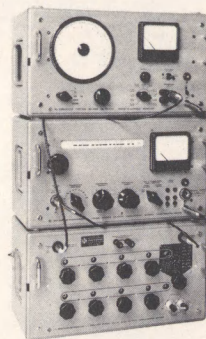
APPLICATIONS

Measurement of dielectric losses of solid and liquid samples • Insulating materials, plastics, wires, tapes, rubber, oils, and chemicals

FEATURES

- Forms complete system for measurement of dielectric losses in liquids and solids
- Sample holders with and without temperature control for solid materials in sheet form, liquids, wires form integral part of bridge
- 10 pF to 1 μ F capacitance range
- Frequency range from 50 Hz to 300 kHz
- Dissipation factors from 5×10^{-4} to 1
- Continuously tunable, highly selective null-indicator permits taking full advantage of bridge accuracy
- Principle of low-voltage Schering Bridge with three terminal connections

L-C PRECISION BRIDGE AND TUNED NULL INDICATOR TYPE LCB/UBM



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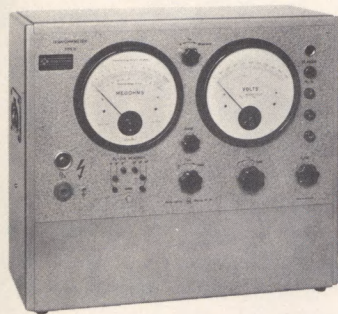
APPLICATIONS

Permits accurate measurements on inductors and capacitors, as well as resistors with inductive component. Ideal for production and quantity control

FEATURES

- Frequency range 50 Hz to 20 kHz
- 10 μ h to 1000H inductance range
- 0.01 to 1000 μ F capacitance range
- Series resistance 10 m Ω to 1 M Ω
- Parallel conductance 10 μ mho to 1 mho
- Highly selective, continuously tunable null indicator permits full use of bridge characteristics
- LCB may be used as variable standard capacitor, or variable precision conductance of 0.1 to 100 μ mhos
- Can be used with dc magnetizing currents for inductances and dc polarizing voltage for capacitors
- Digital Readout

TERAOHMMETER FOR INSULATION MEASUREMENTS



Circle No. 38 on Card

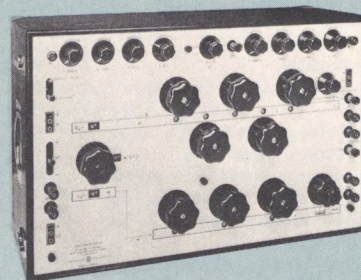
APPLICATIONS

Insulation measurements of components, capacitors, transformers, cables, wires, etc. • Insulating materials such as plastics, glass, ceramics, oil and varnishes can be measured by using three-terminal sample holders

FEATURES

- 2 megohm to 5000 teraohm range (5×10^{15} ohms) - other ranges available
- Test voltage continuously variable up to 1000 volts d.c.
- Single proprietary electrometer tube insures maximum stability
- Leakage is eliminated by guard-ring technique
- Displays directly variations of insulation resistance as function of time, temperature, pressure and other parameters.
- Permits recording of resistance variations

MAXWELL-WAGNER INDUCTANCE AND RESISTANCE BRIDGE



Circle No. 40 on Card

APPLICATIONS

Calibration and measurement of inductances. Measurement of ac and dc resistance of coils, wire wound resistors, transformers, chokes, etc.

FEATURES

- Inductance range 2×10^{-7} to 10 H (resolution 10^{-9} H)
- Frequency range 40 Hz to 50 kHz
- Accuracy 0.1% for most of range
- Measures ac and dc resistance
- Auxiliary bridge eliminates error due to stray capacitance to ground
- Built-in standards
- Ac current through unknown can be varied and measured

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HIGH VOLTAGE SCHERING BRIDGE



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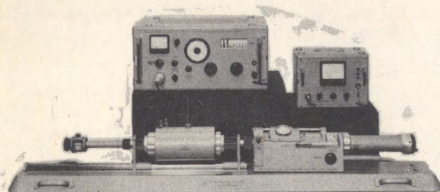
APPLICATIONS

Measures capacitance and dielectric losses on cables, insulators, switches, insulating materials and oils at high voltage limited by external standard

FEATURES

- Capacitance range with 100 pF standard capacitor is 10 pF to 10 μ F
- Accuracy: $\pm 0.5\%$ ± 1 pF for values below 10 nF, $\pm 1\%$ for values above 1 nF
- Dissipation factor range 1×10^{-4} to 1
- Direct reading for dielectric losses
- Built-in oscilloscopic null detector giving independent balance for real and imaginary components

MATERIAL CHARACTERISTICS TEST ASSEMBLY



Circle No. 42 on Card

APPLICATIONS

Measures dielectric constants and dissipation factors of insulators, ferrites, solid and liquid materials at microwave frequencies.

FEATURES

- Measurement of dielectric losses of liquids and solids including ferrites over continuous frequency range from 30 to about 7000 MHz
- Continuous coverage over a temperature range of -60°C to $+240^{\circ}\text{C}$
- Building-block design — add modules as required
- Consists of standing wave detector, signal generator, coaxial containers, calibrated adjustable shorts, and base plate

CAPACITANCE METER TYPE KARU



INDUCTANCE METER TYPE LARU



APPLICATIONS

Fast accurate, dependable operation for laboratory, quality control and production.

FEATURES TYPE KARU

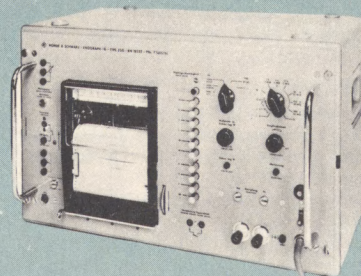
- 0.5 pF to 10 μ F
- Accuracy $\pm 1\%$, ± 0.5 pF, resolution better than 0.1 pF in lowest range
- Measuring frequency 1.5 kHz to 175 kHz
- Six ranges 0 to 100/1000pF/0.01/0.1/1/10 μ F

FEATURES TYPE LARU

- 0.1 μ H to 1 H
- Accuracy (for Q's higher than 5) $\pm 1\%$, ± 0.01 μ H
- Measuring frequency 2.2 kHz to 4.5 MHz
- Seven ranges 2.2 to 7/22/70/220 kHz/0.7/2.1/4.5 MHz

Circle No. 43 on Card

DC RECORDER ENOGRAPH-G TYPE ZSG



Circle No. 44 on Card

APPLICATIONS

Records dc voltages as well as all quantities that can be represented by a dc voltage

FEATURES

- Input impedance selectable up to 10^{11} ohms
- Selection of linear or logarithmic indication
- In linear mode, sensitivity is adjustable from 1 to 300 volts dc; in log mode, sensitivity is adjustable from 0.1 to 300 volts dc
- Accuracy is $\pm 0.2\%$ of full scale deflection in linear range
- Ten selectable chart speeds, push-button control
- Can be used balanced, unbalanced, off ground

To receive more detailed information on the products described in this catalog, circle the number corresponding to the information desired, complete the reply card, and mail it to Rohde & Schwarz.

- | | | | | |
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